

Practical aspects of deep learning

Quiz, 10 questions

10/10 points (100%)

✓ **Congratulations! You passed!**

Next Item



1 / 1
points

1.

If you have 10,000,000 examples, how would you split the train/dev/test set?



33% train . 33% dev . 33% test



60% train . 20% dev . 20% test



98% train . 1% dev . 1% test



Correct



1 / 1
points

2.

The dev and test set should:



Come from the same distribution



Correct



Come from different distributions

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10/10 points (100%)**Have the same number of examples**1 / 1
points

3.

If your Neural Network model seems to have high bias, what of the following would be promising things to try? (Check all that apply.)



Get more training data

**Un-selected is correct**

Increase the number of units in each hidden layer

**Correct**

Add regularization

**Un-selected is correct**

Make the Neural Network deeper

**Correct**

Get more test data

**Un-selected is correct**1 / 1
points

4.

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You are working on an automated check-out kiosk for a supermarket, and are building a classifier for apples, bananas and oranges. Suppose your classifier obtains a training set error of 0.5%, and a dev set error of 7%. Which of the following are promising things to try to improve your classifier? (Check all that apply.)

10/10 points (100%)

☐

Increase the regularization parameter λ



Correct

☐

Decrease the regularization parameter λ



Un-selected is correct

☐

Get more training data



Correct

☐

Use a bigger neural network



Un-selected is correct



1 / 1
points

5.

What is weight decay?

☐

Gradual corruption of the weights in the neural network if it is trained on noisy data.

☐

The process of gradually decreasing the learning rate during training.

☐

A technique to avoid vanishing gradient by imposing a ceiling on the values of the weights.

☒

A regularization technique (such as L2 regularization) that results in gradient descent shrinking the weights on every iteration.



Correct

Practical aspects of deep learning

10/10 points (100%)

Quiz, 10 questions

1 / 1
points

6.

What happens when you increase the regularization hyperparameter lambda?



Weights are pushed toward becoming smaller (closer to 0)

**Correct**

Weights are pushed toward becoming bigger (further from 0)



Doubling lambda should roughly result in doubling the weights



Gradient descent taking bigger steps with each iteration (proportional to lambda)

1 / 1
points

7.

With the inverted dropout technique, at test time:

You do not apply dropout (do not randomly eliminate units), but keep the $1/\text{keep_prob}$ factor in the calculations used in training.You apply dropout (randomly eliminating units) but keep the $1/\text{keep_prob}$ factor in the calculations used in training.You do not apply dropout (do not randomly eliminate units) and do not keep the $1/\text{keep_prob}$ factor in the calculations used in training**Correct**You apply dropout (randomly eliminating units) and do not keep the $1/\text{keep_prob}$ factor in the calculations used in training

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10/10 points (100%)

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1 / 1
points

8.

Increasing the parameter keep_prob from (say) 0.5 to 0.6 will likely cause the following: (Check the two that apply)

☐

Increasing the regularization effect

**Un-selected is correct**☐

Reducing the regularization effect

**Correct**☐

Causing the neural network to end up with a higher training set error

**Un-selected is correct**☐

Causing the neural network to end up with a lower training set error

**Correct**1 / 1
points

9.

Which of these techniques are useful for reducing variance (reducing overfitting)? (Check all that apply.)

☐

Vanishing gradient

**Un-selected is correct**☐

Gradient Checking



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Data augmentation



Correct



Xavier initialization



Un-selected is correct



Exploding gradient



Un-selected is correct



Dropout



Correct



L2 regularization



Correct



1 / 1
points

10.

Why do we normalize the inputs x ?



It makes the parameter initialization faster



It makes the cost function faster to optimize



Correct

